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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,898	06/29/2001	Yoshinobu Sasaki	50090-303	5030

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EXAMINER

BETTENDORF, JUSTIN P

ART UNIT	PAPER NUMBER
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2817

DATE MAILED: 08/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/893,898

Applicant(s)

SASAKI, YOSHINOBU

Examiner

Justin P. Bettendorf

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. Figures 13 and 14 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: The specification uses the terms "distribution circuit" and "synthetic circuit" (e.g. page 7, lines 6 and 17), which the examiner suggests should be accompanied by or changed to more commonly used terms such as --divider circuit-- and-- combiner circuit--, respectively {it should be noted that any change to the specification should be reflected in the claims if the term used in the claims is deleted from the specification). Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 recites that the isolators are placed at the branch portions of the distribution circuit and synthetic circuit. This arrangement appears to be referring to the embodiment of figure 9, wherein the isolators form the distribution and synthetic circuits. Nevertheless, claim 4

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depends from claim 1 and, therefore, includes all of the limitations of claim 1. Claim 1 recites separate isolators, distribution, and synthetic circuits; therefore, it is not clear how the isolators can both be separate elements from the distribution and synthetic circuits as recited in claim 1 and combined elements as recited in claim 4. Thus, the claim is rendered vague and indefinite.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1 and 4* are rejected under 35 U.S.C. 102(b) as being anticipated by Carter et al. United States Patent No. 4,028,632.

The Carter et al. reference discloses in figure 2 a high frequency device that includes: “an isolator placed at the branch portion” of the “distribution” divider circuit 32 (see figure 3 for the isolator with its line ends connected as recited in claim 4); transistor amplifiers 34 (see col. 1, lines 9-13 and col. 3, line 43); and a “synthetic” combiner circuit 36 that has an isolator at the “branch portion” (see figure 6).

*It should be noted that in the application of the above rejection, it has been assumed that the limitations of claim 1 are met even though the isolators are not separate elements from the divider/combiner circuits.

7. Claims 1, 3, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Ito et al. United States Patent No. 4,309,666.

Figure 3 of Ito et al. shows a high frequency circuit comprising semiconductor amplifiers 20, 32 {abstract - therefore inherently comprising transistor amplifiers because transistors are the elements used to form semiconductor amplifiers} connected by "distribution" divider 28 and "synthetic" combiner 28 with isolators 24, 26. The reference discloses, with respect to claim 3, that the impedance at the output "b" of the isolators is matched to the transistor amplifiers 30, 32 (see figure 3 and col. 2, lines 65-68) with the input "a" of the isolator 24 being $2Z_o$ and the output "b" being Z_o .

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al. in view of applicant's admitted prior art figures 13 and 14 and description thereof (herein after known as "AAPA").

The Ito et al. reference discloses that the impedance to the isolators 24, 26 on the input side connected to the divider 28 have an impedance conversion circuit (see col. 3, lines 50-68) but does not state that the lines from the divider have the impedance conversion circuit.

Nevertheless, the AAPA figures 13 and 14 disclose impedance conversion circuits 106 being part of the lines of the distribution circuit.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention to have substituted the art-recognized equivalent means of impedance matching

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disclosed in the AAPA figures 13 and 14 in place of the impedance matching means in the device of Ito et al. because such a modification would have been considered a mere substitution of art-recognized equivalent impedance matching means.

Conclusion


10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Makino et al. United States Patent No. 5,945,887 teaches a circulator/isolator with the impedance set lower at the port connected to the amplifier than the other ports (see abstract).
- b. Katz United States Patent No. 4,965,530 discloses a semiconductor power amplifier with isolators connected between the input divider and output combiner (see figure 2).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin P. Bettendorf whose telephone number is (703) 308-2780. The examiner can normally be reached on 6:00-3:30 (M-F, 1st Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal can be reached on (703) 308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


Justin P. Bettendorf
Primary Examiner
Art Unit 2817

jpb
August 6, 2002